



DATA DISC
INCORPORATED

F-6 FIXED HEAD DISC MEMORY SYSTEM



The F-6 Memory System provides low-cost storage for a wide variety of applications. This general-purpose peripheral can be easily interfaced with any digital computer.

With a magnetic head on each of 64 tracks, the average random access time to any of 6 million bits is 16.7 milliseconds. The standard data transfer rate of 2.8 million bits per second permits loading or unloading the entire file in under 3 seconds.

The F-6, with standard electronics, is a complete memory system that includes a head selection matrix, bit and sector clocking, read/write of serial data, and bit error checking during read. Word length, disc format and interface circuitry are adaptable to meet business or scientific system requirements. Because they require just 8¾" of rack space, a number of F-6 Units may be used in a modular system to provide larger capacity.

Investigate the economies made possible by the F-6 System for your installation. Technical assistance from Data Disc applications engineering representatives is readily available.

F-6 FEATURES

- Head-per-track — 32 per surface, 64 total
- Low cost per on-line bit
- High single disc capacity — 6,000,000 bits
- Broad flexibility — straight-forward interface with any computer; synchronous or asynchronous I/O; any fixed or variable record length
- High reliability — 10,000 hours of operation guaranteed
- No routine maintenance
- Compact and lightweight

F-6 GENERAL SPECIFICATIONS*

Size 8¾" H x 19" W x 22" D
Weight 49½ lbs.
Capacity 6 million bits
Bit Transfer Rate 2.8 million bits per second
Average Access Time 16.7 milliseconds
Head Disc Service Life Over 12,000 hours

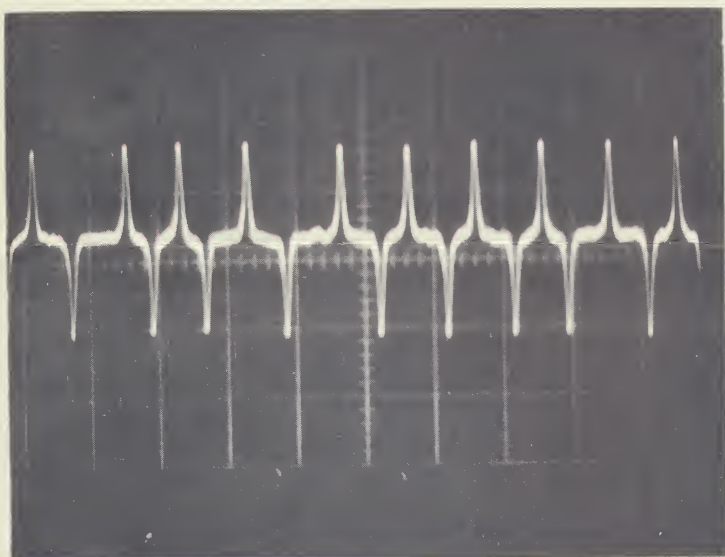
* Write for detail specifications

DATA DISC HIGH DENSITY IN-CONTACT WAVE FORMS

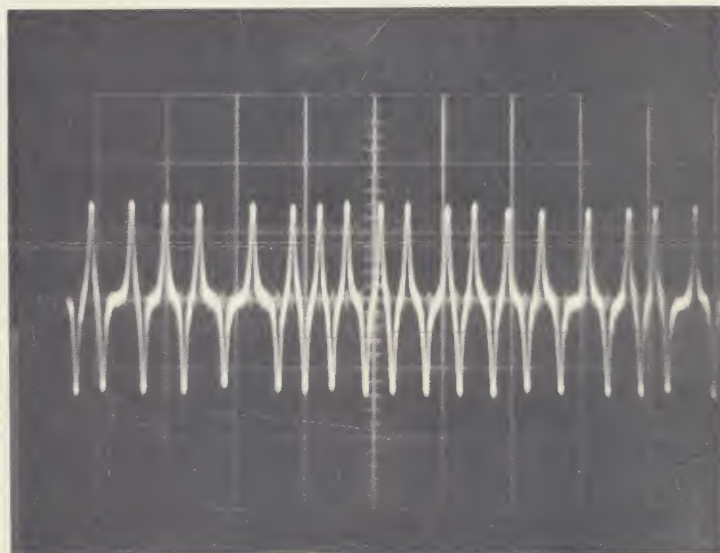
"WORST CASE RANDOM PATTERN"

USING MILLER CODE, TRANSITIONS PER INCH = BPI

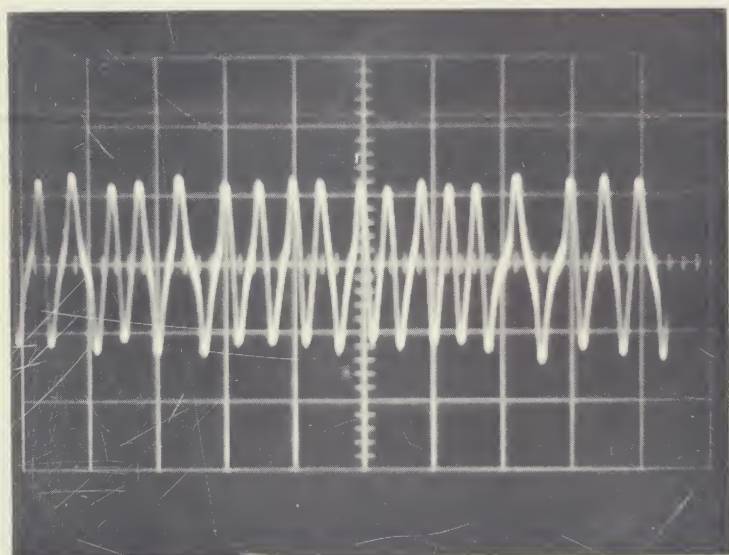
20" INNER TRACK CIRCUMFERENCE
600 RPM



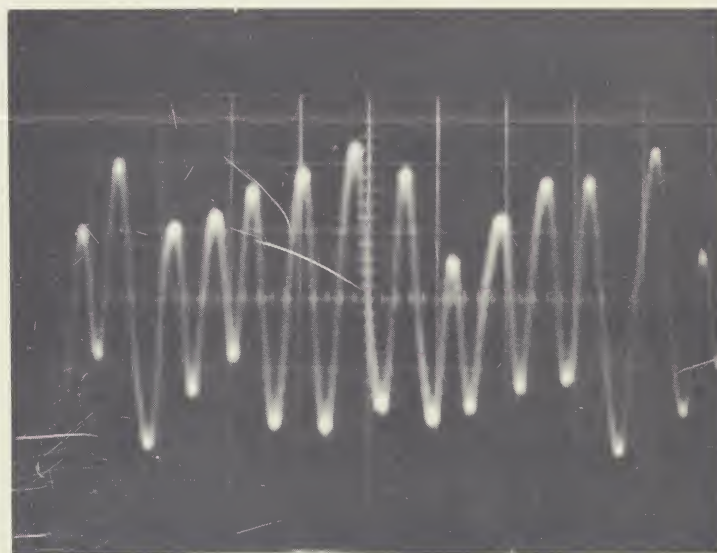
1250 BPI
200 MV/CM
10 microsecond/CM



2500 BPI
200 MV/CM
10 microsecond/CM



5000 BPI
200 MV/CM
5 microsecond/CM



10,000 BPI
100 MV/CM
2 microsecond/CM



OEM PRICE SCHEDULE • F-6

F-6 FIXED HEAD DISC UNIT AND ELECTRONICS—6 MILLION BITS ON-LINE

QUANTITY:	1	2-3	4-7	8-15	16-31	Above 31
MECHANICAL ASSEMBLY WITHOUT ELECTRONICS:	\$6450	\$6000	\$5580	\$5190	\$4830	To Be Negotiated

The price for the Mechanical Assembly includes rack mounting hardware.

F-6 ELECTRONICS

NO. OF UNIT SYSTEMS:	1	2-3	4-7	8-15	16-31	Above 31
PER SYSTEM:	\$3900	\$3600	\$3320	\$3110	\$3070	To Be Negotiated

This minimum electronics price includes read/write amplifiers, head switching matrix, and clocking.

DELIVERY: Beginning 12 weeks after receipt of order, according to agreed upon delivery schedule.

TERMS: F.O.B. Palo Alto, California. Net 30 days.

Prices are subject to change

**CURRENT RESEARCH AND
DEVELOPMENT PROGRAMS**

Video recording

Magnetic thin-film techniques

Magnetic transducer development

Batch fabrication using
monolithic techniques

Modulation and detection
of digital signals

Content addressable memories

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DATA DISC, INC. A UNIQUE CAPABILITY IN MEMORY SYSTEMS

Data Disc, Inc. was founded in 1960 to develop advanced techniques using magnetic discs for data storage. The result is a product line featuring:

Movable head and disc memory systems using single disc cartridges which are interchangeable between machines

Fixed disc head-per-track systems with 32 heads on each side of a single disc

Key to the low cost and high efficiency of the fixed and movable systems is utilization of *in-contact* recording principles. Proprietary precision-engineered magnetic heads operate in continuous contact with Data Disc nickel-cobalt plated discs having a rhodium flash (the surface finish is comparable to that of optical lenses). The transducers touch so lightly that head and disc service life are in excess of 14,000+ hours, with negligible wear and degradation of data signals. *In-contact* recording results in exceptional resolution so that in the near future, it is anticipated that bit packing densities of greater than 10,000 bits per inch will be available from Data Disc.

Performance characteristics of Data Disc systems are superior to any comparable systems within their price categories, evidenced by the fact that this equipment has been or is being interfaced with most of the digital computers with high-volume backlog.

The systems have been or are being interfaced with computers manufactured by licensees General Electric, Univac, Friden and Elliott Automation of England, and by Burroughs, Monroe, Texas Instruments and others.



Exceptional reliability is experienced in use, verified by in-house experimentation and reliability testing conducted by our licensees and customers.

With the very low head forces involved, wear is negligible. Life testing has been in process on heads and discs for over 12,000 hours, with test heads remaining on the same track. There is no evidence of wear, except that the tracks are burnished. Output signals taken from write operations made over 14,000 hours ago, with no re-write, have deteriorated less than 5%.

Among the competitive advantages provided through Data Disc engineering design are the following:

Ability to use much higher recording densities

Lower cost

Higher reliability

Negligible wear (guaranteed for 10,000 operating hours)

Synchronous or asynchronous input/output

Freedom from routine maintenance requirements

Data Disc units perform the random access functions of larger, more expensive systems, and replace slower, less efficient mediums such as paper tape, punched cards, and in many instances, magnetic tape. A typical Data Disc memory, for example, has a data capability equivalent to 9,000 IBM cards. Other systems now in development will have capacities significantly greater.

Data Disc in-contact recording principles provide a video capability which is being utilized by such companies as Ampex, Lockheed, Ball Bros., and others. High bit packing density capability allows storage of a TV frame on each track (up to 150,000 bits), with synchronous or asynchronous transfer at variable speeds. Twelve megacycle sine wave signals have been successfully recorded and played back. The disc system is ideal as a video buffer.

Magnetic in-contact recording on discs should prove to be significantly more economical and efficient than photographic or thermo-plastic recording, or other known techniques that are presently being researched.

Data Disc maintains a complete in-house capability for the design and manufacture of in-contact magnetic head assemblies, nickel-cobalt plated discs, and circuit, logic and total systems design.

Continuing development of advanced in-contact recording systems insures that the corporation will maintain a position of strong leadership in this field.